

## SCIENTIFIC RESEARCH AND COLLECTING PERMIT



Grants permission in accordance with the attached  
general and special conditions

United States Department of the Interior  
National Park Service

Saguaro NP

Study#: SAGU-00110

Permit#: SAGU-2011-SCI-0006

Start Date: Oct 21, 2011

Expiration Date: Dec 31, 2012

Coop Agreement#: n/a

Optional Park Code: n/a

### Name of principal investigator:

**Name:** Becky MacEwen **Phone:** 520-733-5175 **Email:** becky\_macewen@nps.gov

### Name of institution represented:

Saguaro National Park

### Co-Investigators:

**Name:** (see attached list)

**Phone:** n/a

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**Name:** Catherine Workman

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### Project title:

Saguaro BioBlitz 2011

### Purpose of study:

Scientist-lead teams will look for and identify biological resources in Saguaro National Park as part of a 24-hour BioBlitz species inventory. The overall event is sponsored by the National Park Service and National Geographic Society, in cooperation with the Arizona-Sonora Desert Museum and Friends of Saguaro National Park. Principal investigators for the BioBlitz are Catherine Workman of National Geographic and Don Swann of the National Park Service. Approximately 190 co-investigators (inventory scientists) will be completing inventories across the two park units during the 24-hour event, each leading teams of pre-registered volunteers.

The BioBlitz will be a unique combination of taxonomic inventory, public outreach, and science education. Teams averaging about 10 pre-registered volunteers, each lead by a biologist with particular taxonomic expertise, will go into the field to find, identify and map as many species as possible within a 24-hour period (noon to noon). While the inventory is not systematic, it can nevertheless yield valuable biogeographic information. Recent BioBlitzes, for example, have revealed new undescribed species of arthropods and bacteria in the middle of city parks. New county records and other indices of species distribution are common.

Apart from the inventory, other activities include presentations about biodiversity, structured field exercises for K-12 classes, demonstrations of field technology, and exhibits ranging from global biodiversity to ecological field methods. These activities will occur mostly at the Basecamp at Tucson Mountain District- Red Hills Visitor Center, and at field sites across both districts. All data collected from the BioBlitz will be entered and retained at the basecamp or other science stations, and incorporated into the species inventory database for Saguaro National Park. All told, the BioBlitz promises to be a wonderful opportunity for scientists to meet each other, inventory species in the field, and learn about possibilities for research in National Parks, and educate and inspire the public through hand-on field work.

### Subject/Discipline:

Inventory Natural Resources

### Locations authorized:

Rincon Mountain District: Broadway Trailhead, Cactus Forest Trailheads, Desert Ecology Trailhead, Douglas Spring Trailhead, Freeman Homestead Trailhead, Javelina Picnic Area, Javelina Rocks, Loma Alta Trailhead, Loma Verde Trailhead, Mica View Picnic Area, Rincon Mountain Visitor Center, Wildhorse Gate, Madrona Ranger Station, Douglas Spring Campground, Manning Camp, Grass Shack Campground, Happy Valley Campground, all trails and washes

Tucson Mountain District: Basecamp, Arizona-Sonora Desert Museum, Box Canyon, Cam-Boh Picnic Area, El Camino del Cerro Trailhead, Ez-Kim-In-Zin Picnic Area, Hugh Norris Trailhead, King Canyon Trailhead, Milewide Road Pumphouse, Rudasill Access Point, Scenic Drive Trailhead, Sendero Esperanza Trailhead, Signal Hill Picnic Area, SASI, Sus Picnic Area, Valley View Overlook, Desert Discovery Trailhead, all trails and washes

Inventories will occur in a variety of habitats across the mountains from desert scrub landscapes to riparian zones to high pine forests in Saguaro's remote wilderness area. Activities will occur at any time throughout the 24-hour period.

**Transportation method to research site(s):**

Inventory teams will access sites by foot, shuttle, personal vehicle, or a combination thereof, and may hike along trails, washes, or in rugged terrain.

**Collection of the following specimens or materials, quantities, and any limitations on collecting:**

See attached list for approved methods.

Survey, inventory, and sampling techniques are many and varied, and can include techniques to detect and identify species from all taxonomic groups that reside within Saguaro National Park. Activities may include viewing, hearing, capturing, or obtaining plant and animal specimens using a variety of techniques, under the direct supervision of registered BioBlitz scientists. Organisms may be held or gathered for identification purposes, only under the guidance of registered BioBlitz scientists. All participants agree to carefully handle organisms, and (when appropriate) release them back into the wild. No permanent collections are permitted unless a written collecting permit is granted to a registered scientist.

The National Park Service (NPS) recognizes that some collecting may be necessary for a successful inventory during the BioBlitz event. However, Saguaro National Park contains many resources of concern. As such, the following guidelines must be adhered to:

If you are not covered by the BioBlitz blanket permit, you must have your own valid, current NPS research permit.

No threatened or endangered species may be collected or harassed.

The taking of federal and/or state-listed endangered and threatened species is prohibited. The ESA definition of taking applies at BioBlitz: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. For BioBlitz, we strongly recommend visual or photographic identification of protected species, from a distance. If one is captured by accident, release it immediately.

The taking of CITES species is also prohibited.

The taking of federal or state-listed threatened or endangered species or species of special concern require separate permits from the USFWS, NMFS, or the State.

The use of Balchatri traps for bird collection is prohibited. Climbing trees, and use of stakes or permanent marking also prohibited.

All information gathered under this permit shall be accessioned under Saguaro National Park.

**Name of repository for specimens or sample materials if applicable:**

Repository type: Permanently retained in National Park Service collection, maintained in one or more non-NPS repositories identified in attached Appendix A (complete and submit an Appendix A for each proposed repository) (University of Arizona)

Objects collected:

Invertebrates- arthropods, ants, bees, beetles, moths, butterflies, lepidoptera, whiteflies, dragonflies, etc.

Tardigrades

Non-vascular plants- lichen, moss, bryophyte, etc.

Fungi

Endophytes

Repository type: Temporarily captured or handled (may include marking) and then released undamaged in place

Objects collected:

Small mammals- Sherman live traps, catch and release

Bats- mist net, bat detectors, acoustic

Reptiles- noose, catch and release, snake hook

Gila Monsters only- radio track, swab, tag

Amphibians- catch and release

Birds- mist net, banding (with existing permit only)

**Specific conditions or restrictions (also see attached conditions):**

Backcountry and wilderness areas are accessed by foot-only. Inventory participants will access all field sites under the direct supervision of the BioBlitz scientists and Ambassadors (co-investigators, see below). Participants will walk on established trails and washes as much as possible, taking care when climbing slopes or riparian banks. Objects moved during a specimen search will be put back in place when safe and feasible to do so. There will be limited off trail hiking below 4,500 feet for the protection of cultural and natural resources.

To avoid the spread of invasive plant species in Saguaro National Park, participants should follow these practices: stay on trails as much as possible, be familiar with invasive species of the park and don't walk through patches of invasives, brush boots before entering and when leaving the field, and don't extricate any plants.

Minor vegetation manipulation is permitted for inventory purposes, but no significant access routes or trails may be created.

Minor ground disturbance is permitted (e.g. for insect pitfall traps) when approved by the Park cultural resource staff, but ground disturbances must be repaired and may not exceed soil volume removal in excess of what would be expected from the actions of native burrowing small mammals (e.g. gophers, ground squirrels).

In the event of a field emergency, BioBlitz scientists are directed to call the central BioBlitz number. Participants should be prepared to give actual or nearest street address or field location to the dispatcher. The BioBlitz call center can further assist by dispatching park rangers to specific locations and/or making additional contact calls if necessary.

**Recommended by park staff(name and title):**

\_\_\_\_\_

**Reviewed by Collections Manager:**

Yes \_\_\_\_\_ No \_\_\_\_\_

**Approved by park official:**

\_\_\_\_\_

**Date Approved:**

\_\_\_\_\_

**Title:**

Superintendent

\_\_\_\_\_

**I Agree To All Conditions And Restrictions Of this Permit As Specified**

(Not valid unless signed and dated by the principal investigator)

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(Principal investigator's signature)

\_\_\_\_\_

(Date)

**THIS PERMIT AND ATTACHED CONDITIONS AND RESTRICTIONS MUST BE CARRIED AT ALL TIMES WHILE CONDUCTING RESEARCH ACTIVITIES IN THE DESIGNATED PARK(S)**